UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/831,566	05/10/2001	Manfred T. Reetz	STUDIEN 282-	6932

27384 7590 03/21/2006

NORRIS, MCLAUGHLIN & MARCUS, PA
875 THIRD AVENUE
18TH FLOOR
NEW YORK, NY 10022

EXAMINER	
METZMAIER, DANIEL S	

ART UNIT	PAPER NUMBER
1712	

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/831,566	REETZ ET AL.	
	Examiner	Art Unit	
	Daniel S. Metzmaier	1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 January 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *21-45* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *21-45* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims 21-45 are pending.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 12, 2006 has been entered.

Claim interpretation

2. The term colloid has not been specifically defined in the specification and therefore takes the plain meaning in the art. Colloid is generally understood to be a system paving a dimension of less than one micron. It is noted that claim 21 contains a stabilizer and that claim 27 does not contain a separation step. Although, it is further noted that each of the examples sets forth a colloid powder.

Claims must be given their broadest reasonable interpretation consistent with the specification, during patent examination.

Claim Objections

3. Claims 38-45 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. All the claims

are dependent directly or indirectly on independent claim 21. Independent claim 21 is directed to metal oxide colloids. The methods of claim 38 destroys or chemically reacts the metal oxide colloid, which claims subject matter that is outside of the metes and bounds of claim 21. Therefore, claim 38 is not further limiting of the subject matter of claim 21.

Furthermore, the claims directed to "fixing" and "immobilizing" also make materials and/or articles that are no longer colloids, are inconsistent with claim 21 and outside of the metes and bounds of claim 21. Lastly, claim 38, directed to a reduced metal colloid is dependent on claim 27 (method of making a metal oxide), which in turn is dependent on the independent claim 21 to a metal oxide colloid.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

5. Claims 21-45 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 40 and 42-43 are directed to process limitations but are dependent on claim 21, which is directed to a composition. Therefore, the phrase "A process for fixing colloids according to claim 21" lacks proper antecedent basis.

Claims 27-39, 41 and 44-45 are indefinite since claims 27-30 set forth a process for preparing colloids according to claim 21, . . . comprises hydrolyzing or condensing a salt of a metal . . . in aqueous solution. It is unclear how the metal oxide can be formed

if applicants only require either hydrolyzing a metal salt or condensing a metal salt. It would appear that if the salt is hydrolyzed, to obtain the metal oxide requires condensation. Furthermore, it is unclear how the salt form is condensed to form the metal oxide in aqueous solution without hydrolysis. Attention is directed to page 5, last paragraph of the instant specification.

Claim 21 and 27 are indefinite since it is unclear what form the materials the methods are intended by the claims. Claim 21 contains a stabilizer and that claim 27 does not contain a separation step. Although, it is further noted that each of the examples sets forth a colloid powder, the instant claims do not recite said limitation. The water re-dispersible limitation would include sol compositions. Colloidal compositions are generally dispersible in a substance that makes up their external phase. To the extent applicants intend powders, the claims should so state.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 21, 23-24, 26-27, 29-30, 32-35, and 37 are rejected under 35 U.S.C. 102(b) as being anticipated by Moumen et al, "New Synthesis of Cobalt Ferrite Particles in the range of 2-5 nm: Comparison of the Magnetic Properties of the Nanosized Particles in Dispersed Fluid or in Powder Form", Chemical Materials, 1996, 8, pages 1128-1134. See the abstract and page 1129, Experimental Synthesis. Absent

a teaching to the contrary, it is logical to conclude the methods of Moumen et al are performed at room temperature, which includes about 20° to 25° C (see instant claim 35).

See Moumen et al (page 1131 VI Comparison of the magnetic Behavior of Nanosized Particles Dispersed in an Aqueous Fluid and in Powder Form) for the water re-dispersibility.

8. Claims 21-24, 26-30, 32-35, 37-39 and 41 are rejected under 35 U.S.C. 102(b) as being anticipate by Bonnemann et al, WO 96/17685. See examples 5, 6, and 8-10. Since the claims define the colloid rather than a colloid powder and without separation, it is reasonable to conclude that the oxide is inherent to the Bonnemann et al process. It is clear said oxide is formed otherwise there would exist nothing to be reduced in the reduction step of streaming H_2 for 3 or 4 hours.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moumen et al, "New Synthesis of Cobalt Ferrite Particles in the range of 2-5 nm: Comparison of the Magnetic Properties of the Nanosized Particles in Dispersed Fluid or in Powder Form", Chemical Materials, 1996, 8, pages 1128-1134. See the abstract and page 1129, Experimental Synthesis.

While Moumen et al may not conduct their process at a temperature between 50 and 90° C, it would have been obvious to one of ordinary skilled in the art at the time of applicants' invention to perform the process of Moumen et at a high temperature to increase the rate of hydrolysis and/or condensation. It is well settled that the choice of a suitable or optimum temperature, absent a showing of criticality, is within the ordinary skill level of those skilled in the art.

12. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bonnemann et al, WO 96/17685, as applied to claim 21-24, 26-30, 32-35, 37-39 and 41 above, and further in view of Day et al, US 4,197,187. See Bonnemann et al, examples 5, 6, and 8-10.

To the extent Bonnemann et al differs from claim 44 in the incorporating the metallic colloids into sol-gel supports, it would have been obvious to one of ordinary skilled in the art at the time of applicants' invention was made to employ a sol-gel alumina of the Day et al reference (example) as a support in the process of Bonnemann

et al rather than the carbon support for the advantages pointed out in the Day et al reference (column 4, lines 46-88), i.e., better selectivity and improved yields in hydrocarbon conversion. Bonnemann et al (page 6, lines 6-11) clearly contemplates the use of metal oxide carriers. Please compare and contrast with instant page 7, last full paragraph description of supports.

Double Patenting

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 21-24, 26-30, 32-35, 37-39 and 41 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-25 of U.S. Patent No. 6,090,746. Although the conflicting claims are not identical, they are not patentably distinct from each other because the breath of the instant claims

encompasses the patented claims and the colloids inherently would be present in the 6,090,746, processes.

Allowable Subject Matter

15. Claims 25, 31, 40, 42, 43, and 45 are would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

16. The following is a statement of reasons for the indication of allowable subject matter: attention is directed to paragraph number 8 of the Office Action Mailed February 26, 2003.

Response to Arguments

17. Applicant's arguments with respect to claims 21-45 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Metzmaier whose telephone number is (571) 272-1089. The examiner can normally be reached on 9:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel S. Metzmaier
Primary Examiner
Art Unit 1712

DSM